

TABLE I

DESIGN SPEED km/h	AVERAGE RUNNING SPEED km/h	MIN. TRUCK SPEED km/h	"L" TRANSITION LENGTH	L/2 TRANSITION LENGTH
50	45	21	60	30
60	58	34	85	42
70	65	48	150	75
80	71	47	180	90
100	84	48	230	115
110	93	48	250	125
120	103	48	275	137

NOTES

S.D. = PASSING SIGHT DISTANCE AND T. = DUAL WHEEL TRUCKS.
THE 50% REFERS TO PASSING SIGHT DISTANCE GREATER OR LESS THAN 50% OF THE ENTIRE LENGTH OF GRADE.

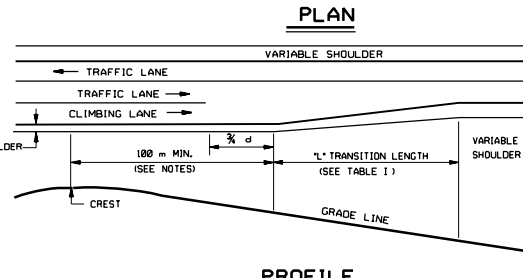


TABLE II

WARRANTS FOR CLIMBING LANE ON TWO LANE HIGHWAYS									
GRADE %	LENGTH OF GRADE	DHV T = 5	DHV T = 10	DHV T = 15 OR MORE	DHV T = 15 OR MORE	DHV T = 15 OR MORE	DHV T = 15 OR MORE	DHV T = 15 OR MORE	DHV T = 15 OR MORE
3 TO 4	0.8 TO 1.6	500	350	400	300	300	200	200	200
3 TO 4	OVER 1.6	400	300	250	150	200	150	150	150
4 TO 5	0.6 TO 1.6	400	250	250	150	200	120	120	120
4 TO 5	OVER 1.6	350	200	250	120	150	100	100	100
OVER 5%	0.5 TO 1.6	250	150	150	120	120	100	100	100
OVER 5%	OVER 1.6	200	120	120	100	120	100	100	100

NOTES :

- CLIMBING LANE REQUIRED ON 2 LANE ROADWAY WHEN TRUCK SPEED IS REDUCED TO MINIMUM TRUCK SPEED (TABLE I) AND DESIGN HOURLY VOLUMES EXCEED THOSE SHOWN IN TABLE II
- CLIMBING LANE SHALL BE CARRIED A MINIMUM OF 100 m OVER CREST, PROVIDED MINIMUM PASSING SIGHT DISTANCE IS AVAILABLE. IF PASSING SIGHT DISTANCE IS RESTRICTED DUE TO HORIZONTAL OR VERTICAL ALIGNMENT, THE CLIMBING LANE SHALL BE EXTENDED TO THE POINT WHERE MINIMUM PASSING SIGHT DISTANCE BECOMES AVAILABLE, PROVIDED TRUCK SPEED IS ABOVE MINIMUM TOLERABLE TRUCK SPEED AT THAT POINT. OTHERWISE EXTEND CLIMBING LANE TO POINT WHERE MINIMUM TOLERABLE TRUCK SPEED IS EXCEEDED.
- CLIMBING LANE REQUIRED ON MULTI-LANE ROADWAY WHEN TRUCK SPEED IS REDUCED BELOW MINIMUM TOLERABLE TRUCK SPEED AND ASSIGNING ALL PASSENGER VEHICLES TO THE INNER LANE OR LANES, THE VOLUME EXCEEDS THE DESIGN CAPACITY OF THE REMAINING LANES.
- WHEN TWO OR MORE CLIMBING LANE SECTIONS ARE JUSTIFIED IN CLOSE PROXIMITY, THE CLIMBING LANE SHALL BE CONTINUOUS IF THE SECTIONS BETWEEN WOULD BE LESS THAN 0.8 km IN LENGTH.
- WHEN THE VOLUME OF THE PROPOSED HIGHWAY APPROACHES THE VALUE WHICH WOULD WARRANT A 4-LANE SECTION AND SUBSEQUENT IMPROVEMENT TO 4-LANE IS ANTICIPATED SHORTLY AFTER THE INITIAL DESIGN YEAR, A 4-LANE SECTION SHALL BE PROVIDED INITIALLY IN PLACE OF CLIMBING LANES.
- CLIMBING LANE OF LESS THAN 300 m SHALL BE OMITTED.
- WHERE THERE IS OVER 1.6 km OF NO PASSING SIGHT DISTANCE, PROVIDE MINIMUM 300 m PASSING LANE FOR EACH 1.6 km WHERE DHV EXCEEDS 80.
- FOR TRAFFIC CONTROL SEE STANDARD DRAWING 746-46

TABLE III

km/h	METERS (ft)
30	55
40	75
50	100
60	125
70	170
80	190
90	215
100	240
110	260

REVISIONS 1. 02/23/08 M.C. REVISED PER NOTE 8, ADDED TABLE III AND ADDED DIMENSION IN RIGHT PLAN DETAIL.	
UTAH DEPARTMENT OF TRANSPORTATION STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION SALT LAKE CITY, UTAH RECOMMENDED FOR APPROVAL CHAIRMAN STANDARDS COMMITTEE APPROVED DEPUTY DIRECTOR	(METRIC) CLIMBING LANES STD. DWG. NO. 810-5A
REMARKS DATE DATE DATE	